fresh-r®

In-the-wall
On-the-wall

User manual

CE

IMPORTANT: Read this manual carefully before using the fresh-r!

BY Vaventis

User manual

Foreword

User manual for the end user

Dear customer,

Thank you for purchasing the Vaventis fresh-r. There are two types of the Vaventis fresh-r: in-the-wall and on-the-wall. This manual contains all the information needed to quickly familiarize yourself with the product. We kindly ask you to carefully read this information before using the product.

This manual is intended for the end user.

The information in this manual is important for the correct and safe use of the product.
With the table of contents you'll be able to find the right information in the manual quickly.
This is the original manual. Besides this manual there is also an installation manual available.

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1. Intended use

The Vaventis fresh-r is a decentral ventilation unit with heat recovery. The fresh-r takes heat from the stale air it expells and uses it to warm up the fresh air it brings in from outside.

It improves air quality for a healthy indoor air quality and at the same time reduces your energy bill. No ducting is needed for this unit which makes installation easier as a conventional HRV system. The fresh-r is equipped with CO_2, RH and Temperature sensors and has an intelligent control system and other than conventional HRV's the fresh-r also works efficient at sub zero temperatures.

The fresh-r functions in three modes:

- Automatic mode
- Manual mode
- Defrost mode

In the automatic mode the fresh-r measures the CO2, RH, temperature, flows and uses the measurements to calculate the efficiency and optimum airflow from each fan.

In the manual mode you can change the fan speed in six settings.

In the defrost mode the fresh-r de-freezes the heat exchanger by blowing warm air out, so it can work again at optimum efficiency. The fresh-r can only starts automatically in a defrost mode. You can not set the fresh-r manually in a defrost mode.

2. Target group

The manual describes how to use and maintain the fresh-r. The fresh-r may only be used and maintained by people who understand the fresh-r and understand this user manual.

3. Symbols used in this manual

3.1 Safety symbols

⚠ DANGER	Indicates an immediate risk of irreversible injury or death when not observed.
⚠ WARNING	Indicates a risk of severe personal injury and/or serious damage to the product if the procedures are not followed carefully.
⚠ CAUTION	Indicates that the product may be damaged if the procedures are not followed carefully.

NOTICE	Alerts the user to additional information and possible problems.

3.2 Other symbols

CE marking: This is the CE logo indicating that the fresh-r meets the legal requirements.

This symbol alerts the user that the manual should be consulted.

4. General safety instructions

⚠ DANGER

- Do not perform any maintenance activities other than those specified in this manual.
- Do not remove the electronical protection. The electrical components are hidden safely.
- Make sure the main switch is in OFF position during replacing the Heat exchanger.
- Do not put the main switch in ON position when the Heat exchanger is taken out.
- Make sure the main switch is in OFF position during replacing the fan assembly.
- Do not put the main switch in ON position when the fan assembly is taken out.
- Make sure the main switch is in OFF position during performing the maintenance activities.
- Contact your supplier for repair work.

⚠ WARNING

- Do not place any object in front of the fresh-r (min. distance 50 cm). This hinders the air flow.
- Make sure the CO2 indicator is always green or orange. Open a door or/and window if the CO2 indicator is red.

⚠ CAUTION

- Do not clean the Heat exchanger with hot water (max. 30 degrees). This can damage the Heat exchanger permanently.

5. General description of the product

The Vaventis fresh-r is a decentral ventilation unit with heat recovery.
The fresh-r takes fresh air from outside, while expelling old air.
The incoming freh air is pre-warmed by the warm outgoing stale air.

6. Main components

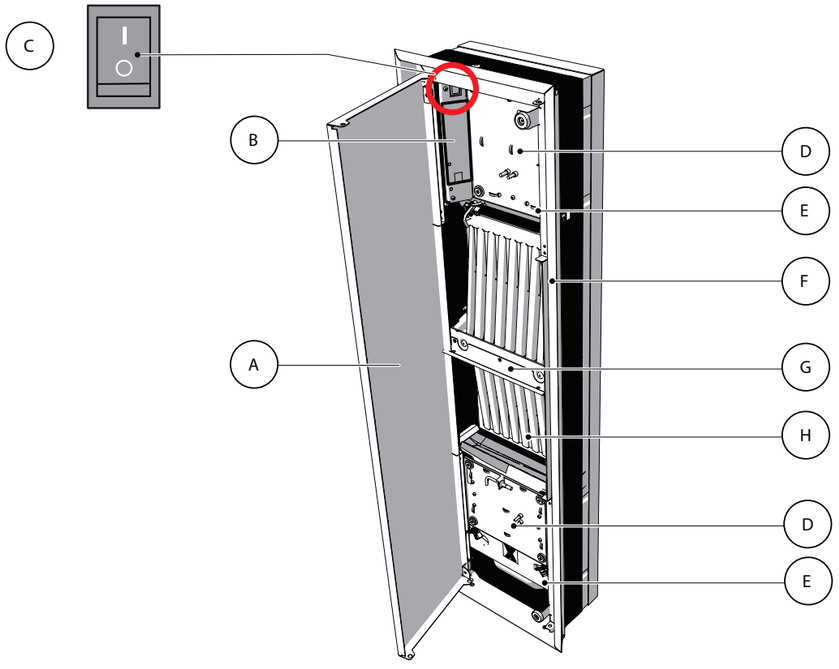

fig. 1 Main components

A. Door
B. Control panel
C. ON/OFF switch
D. Fan assembly
E. Storm shutter (opening/closing) handles
F. Unibody
G. The exchanger clamp
H. Fine wire heat exchanger

7. Operating the product

7.1 How can I use the fresh-r in automatic mode?

In the automatic mode the fresh-r measures the CO2, RH, temperature, flows and uses the measurements to calculate the efficiency and optimum airflow from each fan.

To ensure good air quality, make sure that:

- No objects are placed in front of the fresh-r (min. distance 50 cm);
- The fresh-r grilles are installed;
- The door of the fresh-r is closed;
- The storm shutter (opening/closing) handles are pushed all the way in, in order to open the valves of the fresh-r.
- The exchanger clamp of the fresh-r rests against the door.

If not:

- Remove all objects which are placed nearby the fresh-r;
- Install the fresh-r grilles. See the installation manual for the installation instructions. Contact your supplier if the fresh-r grills are not delivered.
- Close the fresh-r door;
- Push the storm shutter (opening/closing) handles all the way out in order to close the valves of the fresh-r.
- Turn the nuts of the exchanger clamp clockwise, in order to adjust the exchanger clamp. The door has to rest against the exchanger clamp. (For more information about this procedure, see the installation manual of the Fresh-r).

To use the fresh-r in automatic mode, do the following.

1. Open the door.
2. Put the main switch in ON position. You will hear a melody and the automatic indicator lights up. The fresh-r will start in automatic mode.

7.2 How can I change the fan speed manually?

The fresh-r starts in automatic mode. You can change the fan speed manually. You can change the fan speed in six settings. See paragraph 7.5.10 for more information about the different fan speeds.

To change the fan speed, do the following:

1. Open the door.
2. To increase the fan speed, press one or more times on the large fan speed button. To decrease the fan speed, press one or more times on the small fan speed button. The automatic indicator does not light up. After aproximately 100 minutes the fresh-r turns back in automatic mode.

7.3 How to close the valves in order to close a home from the outside?

In case a home needs to be closed from the outside, you need to put the main switch in OFF position and close the valves. Close the valves in the following situations:

- In case of warning to close homes.
- In case of extreme storm.

To close the valves, do the following:

- Put the main switch in OFF position.
- Push the storm shutter (opening/closing) handles all the way out in order to close the valves of the fresh-r.
- Do the same for the other storm shutter (opening/closing) handle of the fan assembly.

7.4 How can I set the fan in defrost mode?

You cannot manually set the fresh-r in defrost mode. The fresh-r will only start in the defrost mode automatically.

7.5 What do the symbols and buttons on the control panel mean?

The control panel is located in the fresh-r. You need to open the door to have access to the control panel.

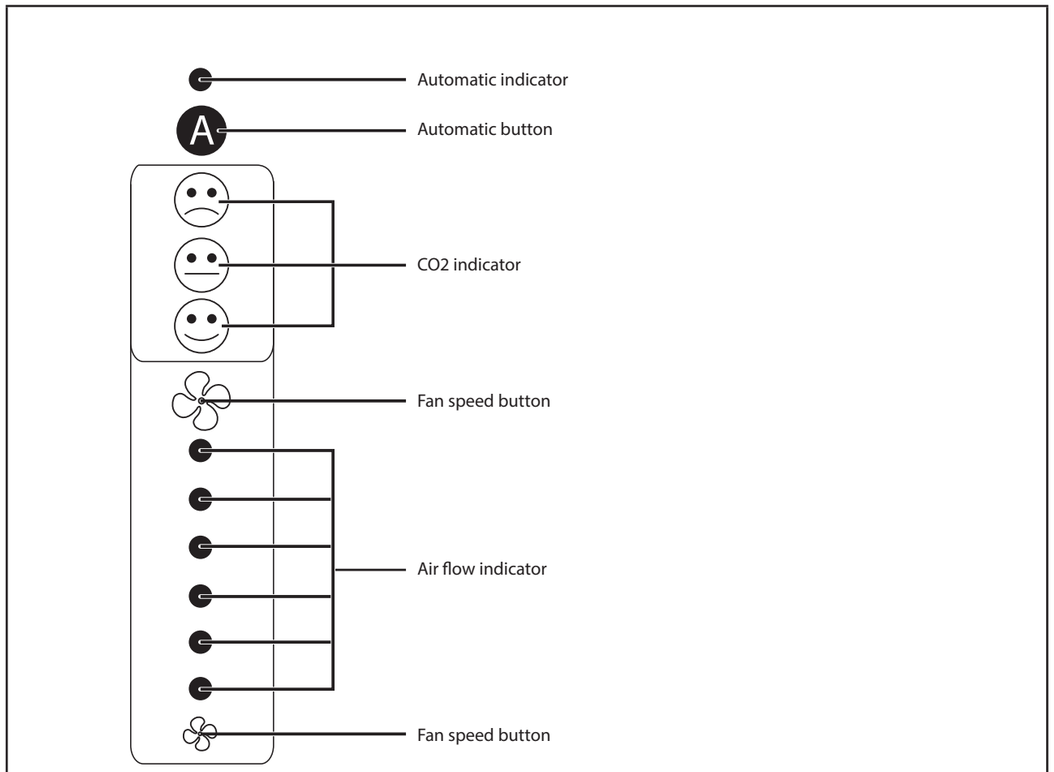

fig. 2 Explanation of the control panel

7.5.1 What do the lights of the automatic indicator mean?

The automatic indicator indicates the type of mode of the fresh-r.

There are three modes:

- Automatic mode
- Manual mode
- Defrost mode

The different modes are explained in the table below.

Type of mode	Automatic indicator	Explaination
Automatic mode	Light is on	In the automatic mode the fresh-r measures the CO2, RH, temperature, flows and uses the measurements to calculate the efficiency and optimum airflow from each fan.
Manual mode	Light is off	In the manual mode, you can change the fan speed manualy. See paragraph 7.2 for more information about changing the fan speed manually.
Defrost mode	Flashes	In the defrost mode the fresh-r de-freezes the heat exchanger by blowing warm air out, so it can work again at optimum efficiency. The fresh-r can only start automatically in a defrost mode. You can not set the fresh-r mannually in a defrost mode.

7.5.2 What do the automatic button mean?

Pressing the automatic button activates the automatic mode.

7.5.3 What do the smileys mean?

The smileys indicate the amount of CO2 in the air.

Type of smiley	Color of the smiley	Meaning
	Red	Bad air quality (>1200 PPM CO2)
	Orange	Medium air quality (800-1200 PPM CO2)
	Green	Good air quality (<800 PPM CO2)

7.5.4 What does a blinking smiley mean?

If the smiley lights up and the smiley blinks, always contact your supplier.

Type of smiley	Light and blinking	Meaning
	Red	Serious error. For more information, see paragraph 7.5.7.
	Orange	Thermocouples are broken.
	Green	CO2 sensor is broken

7.5.5 What is the fan speed button?

You can change the fan speed manually. See paragraph 7.2 for more information about changing the fan speed manually.

7.5.6 What do the air flow indicator mean?

The six lights indicate the speed of the air flow.

You can set the air flows in the following speeds:

- > 100 m^3/h
- 80 to 100 m^3/h
- 60 to 80 m^3/h
- 40 to 80 m^3/h
- 20 to 40 m^3/h
- 0 to 20 m^3/h

7.5.7 What to do when a smiley is red and the air flow indicator blinks?

If the smiley is red and the air flow indicator blinks, this means a serious error. Airflow 6 is the top air flow indicator.

Airflow	Meaning
Airflow 6	Top fan is broken
Airflow 5	T4 sensor is broken
Airflow 4	T3 sensor is broken
Airflow 3	T2 sensor is broken
Airflow 2	T1 sensor is broken
Airflow 1	Bottom fan is broken

7.6 What to do when a smiley lights up?

7.6.1 What to do when a smiley is red?

If the smiley is red, the level of CO2 in the air is a lot higher than indended. Do the following:

1. Open a window and/or door for fresh air.
2. Close the window and/or door when the smiley is orange or green.

7.6.2 What to do when a smiley is orange?

If the smiley is orange, the level of CO2 in the air is higher than intended. You do not need to perform any actions. The fresh-r will automatically increase its capacity and collect more fresh air.

7.6.3 What to do when a smiley is green?

If the smiley is green, the level of CO2 in the air is as intended. You do not need to perform any actions.

8. Maintenance

8.1 Half yearly maintenance

⚠ DANGER

- Do not perform any maintenance activities other than those specified in this manual.
- Make sure the main switch is in OFF position during replacing the Heat exchanger.
- Do not put the main switch in ON position when the Heat exchanger is taken out.

⚠ CAUTION

- Do not clean the Heat exchanger with hot water (max. 30 degrees). This can damage the Heat exchanger permanently.

Every half year the Heat exchanger needs to be cleaned in order to keep the fresh-r in optimum performance.

To clean the Heat exchanger, do the following:

1. Open the door.
2. Put the main switch in OFF position.
3. Slide the exchanger clamp up.
4. Gently move the Heat exchanger out the uni body.

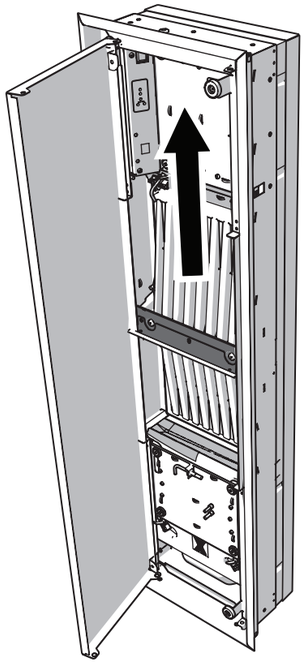

fig. 3 Cleaning the Heat exchanger

5. Clean the Heat exchanger by rinsing it with with water (max. 30 degrees) for 2 minutes on both sides. If necessary, use a neutral detergent.
6. Let the Heat exchanger dry for 1 minute.
7. Place the Heat exchanger back.
8. Move the clamp up.
9. Put the main switch in ON position.
10. Close the door.

8.2 Three-yearly maintenance

⚠ DANGER

- Do not perform any maintenance activities other than those specified in this manual.
- Make sure the main switch is in OFF position during replacing the fan assembly.
- Do not put the main switch in ON position when the fan assembly is taken out.

Every three years the area behind the fan needs to be cleaned in order to keep the fresh-r in optimum performance.

To clean the area behind the fan, do the following:

1. Open the door.
2. Put the main switch in OFF position.
3. Unscrew the 4 screws of the fan.
   Use a screw driver (Torx T20).

i Make sure the rubber grommets stay positioned on the metal.

4. Move the fan assembly gently out the unibody. Allow the fan to hang on his cables.

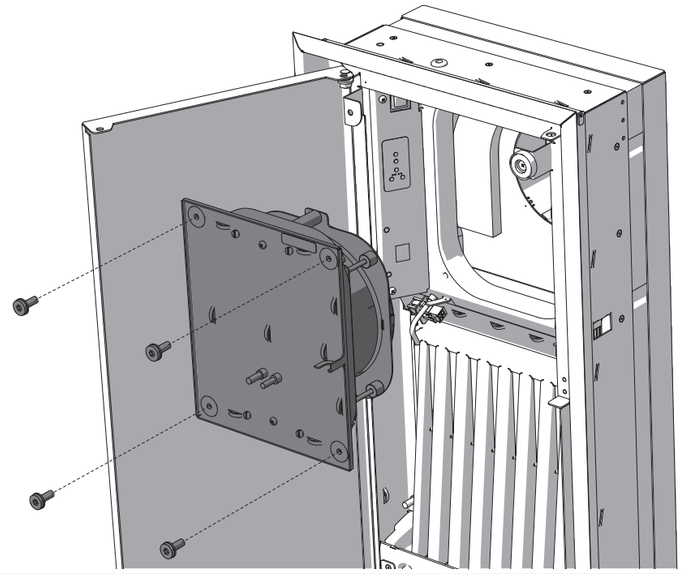

fig. 4 Cleaning the area behind the fan assembly.

5. Use a vacuum cleaner to clean the area behind the fan. Make sure you clean the area carefully. You may damage the sensors.
6. Put the fan assembly back into the unibody.
7. Mount the 4 screws of the fan.
8. Repeat step 3-7 in order to clean the area behind the other fan.

9. Specifications

Type	In-the-wall On-the-wall
Serial nr.	Can be found at the left side, above the middle of the fresh-r, on the sticker it states the Serial nr., the Serial nr. is the number below the bar code.
Flow range	0-120 m^3/hr
Working range*	-20°C to 50°C
Max. power consumption	230 V 50/60 Hz 60 Watt
Noise	30 dB(A) at 80 m^3/hr according ISO3741
Efficiency (at 50m^3/hr)	90% true eff.
Control	automatic (on basis of CO_2 ppm)
Certification	CE
Weight	Less than 20 kg
Dimensions	1143 mm × 300 mm × 160 mm

10. Who can I contact for questions, spareparts or more information?

Vaventis
Achteromstraat 8a
1381 AV Weesp
support@vaventis.com
T +31 294 261 171
www.vaventis.com

11. Warranty

2 years as stated in the General terms and conditions of Vaventis B.V.

12. Frequently asked questions

During use

Does the fresh-r start in the automatic program?
Yes, it always runs in automatic mode, except when the fan speed is changed manually. After 100 minutes it will go back to automatic mode, refer to user manual.

How will the fresh-r determine at what rate the fresh-r needs to operate?
The higher the CO_2 level or the RH (relative humidity) levels the more it will ventilate.

I feel cold air coming out of the bottom, is that correct?
Yes, moving air feels colder then stationary air.

How can I operate the unit?
Press “A” for automatic. You can increase or decrease the fan speed manually using the fan buttons. See paragraph 7.2.

What does the smiley tell me?
They indicate the air quality. See paragraph 15.1.3.

Does the unit measure RH or CO_2?w
Yes, it measures both.

What maintenance should be done?
Rinse heat exchanger with cold water every 6 months, and clean upper and lower duct pipe every 3 years. See paragraph 8.2.

The unit makes noise, is that correct?
If the orange or red face icon is lighted it is correct. The air quality is not good enough and it substantially increases the ventilation rate. If the green smiley is on and it makes more noise then 30 dB(A) it could be very humid inside, especially just after construction. If the green smiley is on and the building is not humid but the unit makes noise for more then 3 hours in a row, contact your supplier.

How can we reduce the noise?
Wait till the green smiley lightens. If this takes too long, open a window.

The fresh-r suddenly starts to make noise, but no air is coming into the room, what happens?
If it is freezing outside, it is in defrost mode, it de-freezes the heat exchanger by blowing warm air out, so it can again work at optimum efficiency. If it is not freezing outside and the fresh-r suddenly starts to make noise, contact your supplier.

13. Declaration of conformity

as required by EC Directive

We

The manufacturer:	Vaventis b.v.
Address:	Achteromstraat 8a
	1381 AV Weesp, The Netherlands

declare under our sole responsibility that the following product

E quipment:	Air handling unit with heat recovery
Brand name:	Vaventis
Model/type:	Fresh-r

is in conformity with the following Directives

2006/95/EC	Low Voltage (LVD)

the product bears the CE label

CE14

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J. van Beuzekom (Managing Director)

Weesp, October 16 th, 2014

14. Appendix

14.1 Spare parts

4 screws M4 x 20 mm

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